

WHAT IS CLAIMED:

1. An anti-microbial composition consisting essentially of an antibody that can bind to a microbe, and a pharmaceutically acceptable carrier, wherein the antibody can generate a reactive oxygen species when singlet oxygen (1O_2) is present.
2. The anti-microbial composition of claim 1 that further consists of a sensitizer molecule that can generate singlet oxygen (1O_2).
3. The anti-microbial composition of claim 2, wherein the sensitizer molecule is a pterin, a flavin, a hematoporphyrin, a tetrakis(4-sulfonatophenyl)porphyrin, a bipyridyl ruthenium(II) complex, a rose Bengal dye, a quinone, a rhodamine dye, a phthalocyanine, a hypocrellin, rubrocyanin, pinacyanol, allocyanin or a chlorin.
4. The anti-microbial composition of claim 2, wherein the sensitizer molecule is attached to the antibody.
5. The anti-microbial composition of claim 2, wherein the sensitizer molecule can generate a singlet oxygen when exposed to light.
6. The anti-microbial composition of claim 1, wherein the antibody is a human or a humanized antibody.
7. The anti-microbial composition of claim 1, wherein the antibody is a Fab, Fab', F(ab')₂, Fv or sFv fragment.
8. The anti-microbial composition of claim 1, wherein the reactive oxygen species is a superoxide radical, hydroxyl radical or hydrogen peroxide.
9. The anti-microbial composition of claim 1, wherein the reactive oxygen species is ozone.
10. The anti-microbial composition of claim 1, wherein the microbe is a gram negative bacteria.
11. The anti-microbial composition of claim 1, wherein the microbe is